Physical observations assessment and the management of altered levels of consciousness (including NEWS 2, PEWS, Pregnancy EWS, AVPU, GCS)

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Authors details: Clinical Training Manager – Physical Health and Resuscitation

Type of document: Policy
Target audience: All clinical staff
Document purpose: To provide all Clinical staff with advice and support when undertaking physical observations including NEWS 2, PEWS Pregnancy EWS, AVPU, GCS

Approving meeting: Clinical Practice and Standards Sub Committee
Implementation date: 21/02/2019

CWP documents to be read in conjunction with

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Document change history

What is different?

- Removal of guidance on the care and management of the Intoxicated Service User to create a standalone document.
- Removal of Electrocardiogram (ECG) Guidelines to create a standalone document.
- Addition of National Early warning score (NEWS 2), National guidance
- Addition of the NEWS 2 chart.

Appendices / electronic forms: N/A

What is the impact of change?

This document will support the introduction and management of NEWS 2, Paediatric Early Warning Score and Pregnancy Early warning scoring systems.

Training requirements: Yes - Training requirements for this policy are in accordance with the CWP Training Needs Analysis (TNA) with Education CWP.
### Document consultation

<table>
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### Financial resource implications

None

### External references

5. [https://www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2](https://www.rcplondon.ac.uk/projects/outputs/national-early-warning-score-news-2)
10. [http://www.nhs.uk/Conditions/Heart-attack/Pages/Symptoms.aspx](http://www.nhs.uk/Conditions/Heart-attack/Pages/Symptoms.aspx)

### Equality Impact Assessment (EIA) - Initial assessment

<table>
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<td>Disability - learning disabilities, physical disability, sensory impairment and mental health problems</td>
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Is there any evidence that some groups are affected differently? Yes/No  No

If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable? N/A

Is the impact of the document likely to be negative? Yes/No  No

- If so can the impact be avoided?
  - N/A

- What alternatives are there to achieving the document without the impact?
  - N/A

- Can we reduce the impact by taking different action?
  - N/A

Where an adverse or negative impact on equality group(s) has been identified during the initial screening process a full EIA assessment should be conducted.
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<td>If you have identified a potential discriminatory impact of this procedural document, please refer it to the human resource department together with any suggestions as to the action required to avoid/reduce this impact. For advice in respect of answering the above questions, please contact the human resource department.</td>
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<td>What is the level of impact?</td>
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Flowchart 1 – National Early Warning Score 2 (NEWS 2), Paediatric Early Warning Score (PEWS) and Pregnancy Early Warning Score (Pregnancy EWS)

When to use the NEWS 2, PEWS and Pregnancy EWS charts

- On Admission to establish a patient's normal baseline (what is normal for that patient).
- For subsequent observations as documented / agreed in patients plan of care.
- Patients that become physically unwell / or complain of being physically unwell.
- Patients that have an altered level of consciousness or appear to have an altered level of consciousness – a full assessment Must be performed.
- If the patient has an obvious wound / head injury / loss of consciousness a full assessment must be performed alongside an urgent medical assessment or (9)999 may be required.
- If the patient appears to be intoxicated with alcohol / illicit substances (full assessment is required and scored with subsequent actions carried out)

A full assessment must consist of all physical observations including ACVPU / GCS and blood glucose

Considerations when using NEWS 2, PEWS and Pregnancy EWS Charts

- Does the patient have learning disability or comprehension problem – keep any instructions and questions simple
- If the patient is deaf ensure any hearing aids / devices are in working order and face the patient when assessing them.
- Does the patient have any neurological problems, such as stroke, brain injury etc – check patients past medical history, check all observations on both sides of the body to establish a baseline as the patient allows and document.
- If there are any abnormalities with recorded observations - is there any past medical history, this can then be care planned and monitored.
- If a patient refuses observations a respiration rate and ACVPU can be recorded without touching the patient, the reasons for refusal must be documented.

Carrying out physical observations

All notations on the NEWS 2 / PEWS and Pregnancy EWS chart must be;
- Legible.
- Signed.
- Dated
- Timed
- In black ink
- Wash hands in accordance with infection control policies / guidelines.
- Check all equipment is clean and in working order, all electronic equipment must be kept plugged in
- Take the chart to the patient.
- Record the patients identification
- Explain the procedure to the patient, answer any questions and gain informed consent
- Record all observations with a black dot in black ink and document any complications / patient refusal.
- Write exact values in the boxes provided at the bottom of each parameter.
- Total the NEWS 2 / PEWS and Pregnancy EWS score including ACVPU, using the scoring Key at the bottom of the form.
- Join consecutive black dots with a line over to form an easy to view graph.
- Clean all equipment after use plug in any electronic equipment and dispose of any single use equipment.
Flowchart 2 – Respirations

Obtaining respirations.

Allow the patient to settle and rest, before recording the respiration rate.

Don’t let the patient know respiration rate is being counted, as this will affect the rate once the patient is aware, try pretending to take the pulse rate, listening to breath sounds, putting a hand in a comforting gesture on the patients back or high chest to gain an accurate respiration rate. Count the rise and fall of the chest as one respiration.

Using a watch or clock with a second hand count the respiration rate for 60 seconds to account for respiration rate and watch the rise and fall of chest for depth of respiration.

Whilst counting the respiration rate note any obvious symptoms such as coughing, wheezing, the production of sputum and any sounds not associated with normal breathing and report/document.

Wheezing is caused by a partial obstruction such as sputum, in the smaller bronchi and bronchioles this will sound like a high pitched often whistling sound and is common in patients with asthma / COPD.

Considerations

- Patients with known respiratory disease (COPD, Asthma etc), May breath rapidly and shallow, this type of breathing is difficult to count and a medical review may be required and care planned.
- If a patient is aware you are counting respirations, the respiration rate may become altered, this should be documented if an accurate count cannot be achieved.
- An altered respiration rate may have an affect on most other observations, so be as accurate as possible.
- Have an awareness of the patients medical history, if the patient is known respiratory disease and can manage at an increased respiration rate, regular assessment is required and a management plan should be in place.
- Opiates and sedation can reduce a patients respiration rate, this will require regular assessment and documentation via the NEWS 2 / PEWS AND Pregnancy EWS observation chart.

The Royal Marsden (2015)
Flowchart 3 - Oxygen Saturations

Oxygen Saturations

Blood oxygen saturation / pulse oximetry only measures capillary haemoglobin oxygen saturation it does not provide information on ventilatory function, haemoglobin concentration or tissue oxygen delivery.

Explain the procedure to the patient, let the patient settle and determine the site to be used, the site should have a good blood supply and be warm.

The usual probe site is a finger or a toe, although ear lobes and the Bridge of a nose can be used with specialist probes. Thumbs / big toes should not be used as they are thicker than a finger and may alter the reading.

Once a site is determined all barriers should be removed, such as nail varnish, dirt and blood, failure to do so may alter the reading.

Ensure the sensor is on and the red light inside the probe is visible, the probe is then positioned on the chosen site ensuring that the probe is not held onto the nail bed.

Check that the pulse on the device corresponds with the radial pulse (wrist) before recording.

Continuous use of a probe on the chosen site may cause blisters on the finger / toe pad or pressure damage to the nail bed, the probe must be rotated to other fingers / toes at least every 4 hours (MRHA 2001) and not held on by tape or by yourself.

Follow manufacturers guidelines regarding probe repositioning.

Considerations

- Ensure that the site of choice is warm, as cold can have an effect on the result and lead to a reduced reading. Warm the site up by holding or rubbing the nail bed.
- Ensure that the site is clean and free from dirt, blood, and nail varnish, shellac nail varnish is difficult to remove so toes should be used, again ensure all barriers are removed as this can lead to a reduced reading.
- Holding the probe in position can reduce blood flow to the finger and cause a reduced reading, if the spring in the probe is broken do not use, an alternative probe will need to be used.
- If the patient has a tremor the resulting reading may be altered due to the probe moving on the finger, this altered reading must be considered before action is taken, using clinical judgement.
- If a reading is lower than expected a capillary refill time (CRT) should be done to check blood flow into the nail bed – pressure should be applied to the nail bed for 6 seconds then removed a normal result is the nail bed going back to its original colour in 2 seconds or below, (if over 2 seconds the result will be altered and should be documented and repeated, in continued low CRT a medical review should be requested and the patient monitored.
- If a patient becomes Hypoxic (not enough oxygen carried in the blood to the brain) the patient will show obvious signs, such as pale skin, blue tinges to the lips, ear lobes, nail beds and in later stages cheeks (Cyanosis) alongside increased confusion (Simpson 2006), oxygen must be given and urgent medical review must be requested.

The Royal Marsden (2015)
Flowchart 4 - Obtaining a digital blood pressure

Obtaining a blood pressure

Ensure the patient has rested for at least 5 minutes before taking a blood pressure

Tight or restrictive clothing must be removed from the arm, also the cuff must be placed on bare skin, patient dignity must be maintained

Ensure the patients arm is as straight as is comfortable, is supported and positioned at heart level, palm uppermost.

Carefully choose a cuff size using the sizing scale on the cuff, a overly narrow / wide cuff can cause a false high / low reading, the cuff should be placed approx 3-4 inches above the brachial artery and tightened, but not over tightened.

Do not obtain a blood pressure on the same side as a mastectomy, as this may compromise lymphatic circulation, increase oedema and damage the arm.

Do not obtain a blood pressure measurement on the same arm as an intravenous (IV) cannula as it may damage the cannula.

The Royal Marsden (2015)
Flowchart 5 - Obtaining a manual blood pressure

Obtaining a manual blood pressure

1. Palpate the brachial artery, and wrap the correct sized deflated cuff snugly around the arm approx 1 – 2 inches above the brachial artery, if the cuff is too loose this will alter the reading.

2. Gently tap the bell of the stethoscope to ensure it is on a high setting, palpate the brachial artery and place the bell of the stethoscope central to the artery and hold it in position with one hand.

3. Position the manometer at eye level or a position that is comfortable, and palpate the brachial artery with the fingertips.

4. Ask the patient to stop talking and stay as still as possible to avoid inaccurate readings, ensure that the thumb wheel (valve) on the inflating bulb is closed or turn in a clockwise direction to close before inflating the cuff, if the valve is not closed the cuff will not inflate.

5. Pump the cuff to 30mm Hg above the point were the pulse disappears and place the bell of the stethoscope over the point where the pulse was felt or on the centre of the position of the artery if the pulse is not felt.

6. Carefully / slowly open the the valve of the inflating bulb, then fluctuating between open and closed deflate the cuff at no faster 5mm Hg / second, whilst watching the gauge, deflating too fast will mean you may have to re-inflate the cuff, this can be uncomfortable and the patient may object to doing this multiple times.

7. Release the air in the cuff slowly and listen for the point the pulse reappears (Korotcoff sound), this first sound is recorded as the Systolic reading.

8. Continue to slowly deflate the cuff listening to the pulse sound (Korotcoff sound), once this becomes muffled and disappears this is recorded as the Diastolic reading, the Systolic and the diastolic readings are then recorded on the NEWS 2 / PEWS and Pregnancy EWS chart, only the diastolic reading is scored not the diastolic.

9. Ensure that the patient is comfortable and reassure as the arm may be reddened / pinched.

The Royal Marsden (2015)
Flowchart 6 – Obtaining a temperature

**Obtaining a Temperature**

**Common sites for recording a temperature.**
- **Tympanic** – Reads temperature from the tympanic membrane (ear drum). This is a core temperature (internal).
- **Oral** – This is taken from the mouth under the tongue. This is a core temperature.
- **Axilla** – This is taken from the centre of the arm pit (Axilla). This is not a core temperature

**Tympanic Temperature recording** – Ensure that the lens on the thermometer is clean and dry

Attach a disposable probe cover, this will usually turn the thermometer on (depending on the model), always follow manufacturers instructions.

Stabilise the patients head, then gently pull the ear lobe down, this slightly straightens the ear canal and provides a more accurate reading (for adults and children age 1 and over).

Insert the tip of the thermometer until the ear canal is sealed, or until the end of the thermometer stops, if the thermometer is not in the ear canal enough the reading could be altered, and press the activation button and hold in place for 1 second, some models will beep.

The temperature will appear on the digital display, the probe cover should hen be disposed of in clinical waste.

**Oral Temperature recording** – explain the procedure to the patient and obtain informed consent.

Ensure the thermometer probe is placed on the probe, and the thermometer is switched on.

Ask the patient to open their mouth and lift their tongue and place the probe under the tongue, ask the patient to lower their tongue onto the probe and close their mouth until the thermometer beeps and a temperature can be recorded.

The Royal Marsden (2015)
Flowchart 7 - Monitoring levels of consciousness (ACVPU)

**Monitoring Levels of Consciousness (AVPU).**

**A = Alert**
- Fully awake
- Is aware of their surroundings, are their eyes open on your approach, do they respond to your voice and have spontaneous motor function.

**C = Confusion**
- 'new confusion’ (including disorientation, delirium or any acute reduction in GCS score) as part of the assessment of consciousness on the NEWS 2 chart.
- new confusion scores 3 on the NEWS 2 chart, ie a red score for a single score of 3, indicating that the patient requires urgent assessment.
- if it is unclear whether a patient’s confusion is ‘new’ or their usual state, the altered mental state/confusion should be assumed to be new until confirmed to be otherwise.

**V = Responds to Voice**
- Will make some kind of response when you talk to them, which could be eye movement or motor response.
- Ask short, sharp questions, ‘are you okay’ the response could be a verbal response, grunt, moan or a movement of a limb when prompted by Voice.

**P = Responds to Painful stimuli**
- The patient should respond to the application of pain on selected sites.
- Applying short sharp pressure on the side of the knuckle of an index finger with a pen this pressure is applied by applying pressure with a pen between your finger and the patients inside knuckle. Do not use nail bed pressure as this could cause bruising.
- Straight fingers onto the patients collar bone and tapping whilst applying pressure with each tap, you should focus on one area for this method to be effective.

**U = Completely Unresponsive**
- The patient does not respond with eye movement, voice or motor responses to voice or painful stimuli

If C, V, P, U scores, Glasgow Coma Scale (GCS) must be activated, and the actions followed as per the GCS actions detailed in this procedure (SOP3)

Please remember that the airway is at risk in patients with a low conscious level, and can appear in patients not known to have a head injury, such as alcohol intoxication, illicit drug use Hypoglycaemia etc as discussed within this protocol (SOP3).

The Royal Marsden (2015)
Flowchart 8 - Procedure to be followed for patients with physical deterioration and not known to have a head injury

Procedure to be followed in the following situations:
• On admission, then frequency as directed by care plan, a minimum of weekly;
• The patient appears to be physically unwell;
• The patient has altered level of consciousness, head injury is not suspected;
• The patient not responding to requests as expected;
• The patient is commencing new medication that may affect physical health;
• A report from patient or witness regarding any of the above.

Immediately commence Physical Observations with NEWS 2 / PEWS and apply GCS score as directed by actions below

**NEWS 2 SCORE 0**
PEWS SCORE 0
Continue with routine observations i.e.
- Minimum of weekly unless alternative observations are agreed as part of a care plan
- Unless patient's condition indicates change then a care plan is required.

**NEWS 2 SCORE 1-4**
PEWS SCORE 1-2
Maximum 2 hourly
Minimum 4 hourly.
- Inform the registered nurse who must assess the patient
- Registered nurse to decide whether to increase the monitoring frequency and/or if escalation of clinical care is required, i.e. Medical review.
- Clinical judgement and clinical decision making needs to be used when deciding whether to escalate.

**NEWS 2 SCORE 5-6 OR A SCORE OF 3 IN ANY ONE PARAMETER, PEWS SCORE 3-4.**
(Except ACVPU, see next column).
Increased frequency to a minimum of 1 hourly
- Registered nurse to urgently inform the medical team caring for the patient.
- Contact an available medic for urgent assessment within 30 minutes.
- Contact Emergency services (9)999 or crash team, depending on clinical presentation, i.e. cardiac arrest.

**NEWS 2 SCORE 7 OR MORE. PEWS 5-8.**
Increased frequency to a minimum of 15 minute intervals.
- Registered nurse to immediately inform medical team or available medic for emergency assessment.
- Contact emergency services (9)999 or crash team, depending on clinical presentation, i.e. cardiac arrest.

**Record blood glucose**
Below 4mmol – Hypoglycaemia
Above 7mmol – Hyperglycaemia

VPDU SCORES 3 (NEWS 2 ONLY)

VPDU SCORES 1 (PEWS ONLY)
- continue with GCS and NEWS 2, PEWS scoring
- Minimum of 30 minute intervals for 2 hours if GCS 15
- Minimum 15 minute NEWS 2, PEWS and GCS if GCS ≤14 and below, follow actions shown in Flowchart 9.

Please Note:
Please ensure when reporting any head injury or altered level of consciousness on Datix that you include the NEWS 2 and GCS scores
NEWS 2 = Monitoring early warning score 2  GCS = Glasgow Coma Scale
Flowchart 9 - Procedure to be followed in the event of altered level of consciousness

Procedure to be followed in the event of altered level of consciousness, including:
- Patient found on floor with suspected injury;
- Obvious head injury, lump, bump;
- Altered level of consciousness due to possible consumption of alcohol and or illicit drugs, potential /associated head injury?
- Patient not responding to requests as expected;
- Report from patient or witness.

Immediately commence physical observations with NEWS and apply GCS scores.

- **GCS Score = 13 or less**
  - Call an ambulance
  - 15 minute NEWS 2 / PEWS observations and GCS
  - Level 3 observations

- **GCS ≤14 WITH head injury / suspected head injury**
  - Call an ambulance
  - 15 minute NEWS 2 / PEWS observations and GCS
  - Level 3 observations

- **GCS ≤ 14 WITHOUT head injury**
  - 15 minute NEWS 2 / PEWS observations and GCS
  - Level 3 observations

- **GCS = 15**
  - NEWS 2 / PEWS observations and GCS:
    - Every 30 minutes for 2 hours
    - Hourly for 4 hours
    - 2 hourly until directed by Doctor
  - If at any time the GCS is less than 15 resume 15 minute NEWS 2 / PEWS observations and GCS

At 2nd recording if GCS ≤14 call an ambulance

Please Note:
Please ensure when reporting any head injury or altered level of consciousness on Datix that you include the NEWS 2 / PEWS and GCS scores
NEWS 2 = National early warning score 2. PEWS Paediatric Early Warning Score. GCS = Glasgow Coma Scale
Flowchart 10 - Blood glucose monitoring

Blood Glucose Monitoring Pre-procedure.

Turn on the machine and ensure that the onscreen date and time is correct and that there is adequate battery life

Check the unit of measurement, ensure that it is reading in mmol/L prior to each use

Before taking the monitor / test strips to the patient they need to be checked for the following:
- Ensure that the test strips are in date and have not been exposed to air
- The Monitor and test strips have been calibrated together.
- The monitor is recalibrated when using a new pack of test strips.
- Internal quality control is carried out with both high and low solutions in accordance with trust / manufacturers guidelines.
- Record the result of the internal quality control in the appropriate log book / sheet (pass / fail).
- Ensure that the glucose meter is decontaminated as per local guidelines prior to use.
- Ensure that the Glucose meter service record is in date in accordance with local policy.
- Ensure that the screen / display is intact and that the screen safety check has been completed as per manufacturers guidelines.
- Select a site that is warm, pink and free from any hard skin / calluses, burns, cuts, scars, bruises or rashes. Avoid any previous obvious puncture sites. The usual site for lancing is the palmer surface of the distal segment of the third or fourth finger, ideally of the non-dominant hand as there is usually less callusing visible.

Blood Glucose Monitoring Procedure

Ensure that the patient has washed their hands and dry thoroughly as per local infection control guidelines and that the patient is comfortable, sitting or lying down, then wash your hands and apply gloves.

- Activate the blood glucose meter
- Take a single use lancelet and ensure it has the correct depth settings (if available).
- Activate the single use Lancelet as per manufacturers guidelines into the chosen site, e.g. the side of a finger and ensure that the sites are rotated to prevent the frequent use of sites.
- "Milk" the fingertip from the palm of the hand to gain a large enough Droplet of blood, avoid milking the finger alone.

Insert the test strip into the blood glucose monitor and apply the first drop of blood when advised by the on screen instructions, ensuring that the correct location of the test window is identified and is entirely covered with blood.

Place a piece of gauze over the puncture site and apply firm pressure and regularly monitor for excessive bleeding and then remove gloves and place into the clinical waste bag as per Infection Control guidelines.

Document the result once obtained and decontaminate the glucose monitor as per local guidelines.
1. **Introduction**
There will be occasions when patients will need an increased attention paid to the assessment and management of their physical health. This document sets out the actions that staff will need to take urgently for patients who become physically unwell, have an altered level of consciousness, head injury or suspected head injury, to prevent deterioration and save lives.

To support patients during physical or neurological crisis, it is imperative that the physical and neurological assessment on admission and subsequent assessments have been completed to enable clinical and medical staff to have a base line of patient’s status using the Physical observation recording chart with National Early Warning Score (NEWS 2), Paediatric Early Warning Score (PEWS) AND Pregnancy Early Warning Score, Awake, Confusion, Voice, Painful Stimulus, unresponsive (ACVPU) and Glasgow Coma Scale (GCS) for ALL service users. It is necessary for staff to have competent physical and neurological observation assessment skills in order to carry out these assessments competently.

If the patient has an obvious wound and / or loss of consciousness which require urgent medical attention they will need to go to Accident and Emergency for treatment – dial (9)999.

Patient should be nursed in the recovery position if they have an altered level of consciousness.

Monitor and record the blood glucose levels to exclude an underlying hypoglycaemia or hyperglycaemia (see section 4).

A full physical assessment of the patient should be made to assess for any injury or abnormality.

Consideration should always be given to patient’s allergy status.

There are occasions when an in-patient may appear to be intoxicated with alcohol and or illicit substances. It is vital that these situations are assessed and managed to ensure the safety of the patient, staff and others. It is important a thorough assessment is made to rule out other conditions that may appear to be due to intoxication e.g. head injury and therefore physical and neurological assessment will be required. Acute intoxication is a serious condition which can result in death.

### 1.1 How to carry out physical observation
The NEWS 2 / PEWS and Pregnancy EWS are all incorporated into standardised Physical observation recording charts which utilise the National early Warning Score 2 (NEWS 2) parameters and Glasgow Coma Scale (GCS) for ALL patients.

Points to consider when using the physical observation recording charts with National Early Warning Score 2 (NEWS 2), Paediatric Early Warning Score (PEWS), Pregnancy Early Warning Score (EWS) and Glasgow Coma Scale (GCS):

- Does the patient have a learning disability or comprehension problem? Keep the instructions and questions simple;
- Is the patient deaf? Make sure any hearing aids are in and in good working order, face the Patient when assessing them;
- Does the patient have a neurological problem e.g. Stroke? Check the patients' past medical history; assess ACVPU and GCS on both sides of the body.

**Preparation:**
- Wash hands before and after procedure;
- Check all equipment is clean and has been checked as fit for use.

All notations on patient's Physical observation recording chart with NEWS 2, PEWS and Pregnancy EWS) and Glasgow Coma Scale (GCS) must be:
- Legible;
- Signed;
• Dated;
• Timed;
• In black ink.
• Take chart to patient;
• Record patient identification;
• Explain the procedure to the patient, answer any questions and gain their consent;
• Record all observations with a firm dot ● in black ink;
• Write exact values in boxes provided
• Join consecutive observations with a straight line over time.
• Clean all equipment and store safely;
• After procedure, clean and dispose of any single use items.

1.1.1 Respirations
• The best time to assess your patient’s respirations is settled and at rest, immediately after taking his pulse rate;
• Keep your fingertips over his radial artery, and don’t tell him that you’re counting respirations; otherwise, he’ll become conscious of them, and the rate may change;
• Count respirations by observing the rise and fall of the patient’s chest as he breathes. Alternatively, position the patient’s opposite arm across his chest, and count respirations by feeling its rise and fall. Consider one rise and one fall as one respiration;
• Using a watch or clock with a second hand, count the amount of breaths for 60 seconds to account for variations in respiratory rate and pattern;
• Observe chest movements for depth of respirations;
• As you count respirations, note and record any obvious symptoms such as coughing, wheezing, production of sputum wheezing, and expiratory grunting;
• Wheezing is caused by partial obstruction in the smaller bronchi and bronchioles. This high-pitched, musical sound is common in patient with emphysema or asthma.

1.1.2 Oxygen saturation
• Pulse oximetry only measures haemoglobin oxygen saturation, so does not provide information on ventilatory function, haemoglobin concentration or oxygen delivery to the tissues;
• Determine the site to be used for pulse oximetry; the site should have a good blood supply, check it is warm;
• Select probe site (usually finger, although ear lobes and bridge of nose can be used), assessing for barriers such as nail varnish, dirt, blood;
• Position the sensor securely;
• Turn the pulse oximeter on;
• Check that the pulse reading on the devise corresponds with their actual pulse;
• Continuous use of a finger probe may cause blisters on the finger pad or pressure damage to the skin or nail bed;
• Do not use tape to hold probe in place, and re site probe at least every 4 hours, or more frequently if stated in the manufacturers’ instructions (MDA 2001).

1.1.3 SpO2 Scale 2
• It is recommend that when supplemental oxygen is being used to maintain the desired oxygen saturation, the rate of oxygen delivery (L/min) and the delivery system/device should be documented on the NEWS chart using the British Thoracic Society oxygen delivery device codes.
• For patients confirmed to have hypercapnic respiratory failure on blood gas analysis on either a prior or their current hospital admission, and requiring supplemental oxygen, it is recommend (i) a prescribed oxygen saturation target range of 88–92%, and (ii) that the dedicated SpO2 scoring scale (Scale 2) on the NEWS 2 chart should be used to record and score the oxygen saturation for the NEWS.
• The decision to use SpO2 scale 2 should be made by a competent clinical decision maker and should be recorded in the patient’s clinical notes.
• In all other circumstances, the regular NEWS SpO2 scale 1 should be used.
• For the avoidance of doubt, the SpO2 scoring scale not being used should be clearly crossed out across the chart.

1.1.4 Blood pressure
• Ask the patient to rest for 5 minutes before taking their blood pressure;
• Ensure tight or restrictive clothing is removed from the arm;
• Ensure arm is comfortably straight, supported and positioned at heart level, palm face up;
• Carefully choose a cuff of appropriate size for the patient: an excessively narrow cuff may cause a false-high reading; an excessively wide one, a false-low reading;
• Do not take a blood pressure measurement on the same side as a mastectomy because it may compromise lymphatic circulation, worsen oedema, and damage the arm;
• Do not take blood pressure on the same arm as a cannula because it may damage the device.

Using a digital sphygmomanometer:
• The patient can lie in a supine position or sit erect while you measure their blood pressure;
• The patient’s arm should be extended at heart level and needs to be well supported with a pillow;
• If the artery is below heart level, you may get a false-high reading;
• Make sure the patient’s is relaxed and comfortable when you measure his blood pressure so it stays at its normal level;
• Follow the manufacturers’ instructions.

Using a manual sphygmomanometer:
• Palpate the brachial artery. Centre the bell of the stethoscope over the part of the artery where you detect the strongest beats, and hold it in place with one hand;
• Wrap the deflated cuff snugly around the patient’s upper arm 1” (2.5cm) above the brachial pulse;
• Position the manometer at your eye level;
• Instruct the patient to stop eating, talking and to stay still during the procedure as this can cause inaccurate readings;
• Palpate the brachial pulse with your fingertips while inflating the cuff;
• Using the thumb and index finger of your other hand, turn the thumbscrew on the rubber bulb of the air pump clockwise to close the valve;
• Inflate the cuff to 30mm Hg above the point where the pulse disappears;
• Place the bell of your stethoscope over the point where you felt the brachial pulse;
• Carefully open the valve of the air pump. Then deflate the cuff no faster than 5 mm Hg/second, while watching the gauge;
• Release the valve slowly and note the point at which you hear the pulse reappear, the start of the pulse sound indicates the systolic pressure (Korotkoff sounds);
• The sounds will become muffled and then disappear. The last Korotkoff sound you hear is the diastolic pressure.

1.1.5 Pulse / heart rate
Common areas to take the Pulse:
• Radial Artery – Located on the wrist just below the thumb;
• Brachial Artery – Located on the opposite side of the elbow diagonally opposite to the Radial artery;
• Carotid Artery – Located at the side of the neck between the edge of the jaw bone and the middle of the throat.
Taking a pulse:
- Make sure the patient is comfortable and relaxed because an awkward, uncomfortable position may affect his heart rate;
- Ensure the patient is comfortable; in a sitting or supine position, with his arms at his side or across his chest;
- Gently press your index, middle, and ring fingers on the artery and apply light pressure until the pulse is felt;
- You should feel a pulse with only moderate pressure; excessive pressure may obstruct blood flow distal to the pulse site;
- Don’t use your thumb to take the patient pulse; the thumb has a strong pulse of its own and may be easily confused with the patient’s pulse;
- After locating the pulse, count the beats for 60 seconds to get the number of beats per minute. Counting for a full minute provides a more accurate picture of irregularities;
- While counting the rate, assess pulse rhythm and volume by noting the pattern and strength of the beats. If you detect an irregularity, repeat the count and note whether the irregularity occurs in a pattern or randomly.

1.1.6 Temperature
- Make sure the lens under the probe is clean and dry;
- Attach a disposable probe cover following manufacturer’s instructions;
- Stabilise the patient’s head; then gently pull his ear up and back (for adults and children older than age 1);
- Insert the thermometer until the entire ear canal is sealed;
- Press the activation button, and hold for in place for 1 second;
- The temperature will appear on the display.

1.1.7 How to record ACVPU (Alert, Confusion, Voice, Pain, and Unresponsive)
Assessing conscious level involves examining simple but key components of a person’s neurological function, such as response to voice and pain. This enables an estimation of level of wakefulness and awareness at a particular time.

If patient has a head injury, altered level of consciousness, including possible consumption of alcohol and/or illicit drugs, see Flowchart 8 or Flowchart 9.

A = Alert
- Fully awake;
- Note whether the patient has their eyes open when you approach them, will respond to voice and have spontaneous motor function.

C = Confusion
- New confusion’ (including disorientation, delirium or any acute reduction in GCS score) as part of the assessment of consciousness on the NEWS 2 chart.
- New confusion scores 3 on the NEWS chart, i.e. a red score for a single score of 3, indicating that the patient requires urgent assessment
- If it is unclear whether a patient’s confusion is ‘new’ or their usual state, the altered mental state/confusion should be assumed to be new until confirmed to be otherwise.

V = responds to Voice
- Makes some kind of response when you talk to them; which could be in Eyes, Voice or Motor;
- Ask ‘Are you ok?’ The response could be a verbal response, grunt, moan or slight movement of a limb when prompted by voice.

P = responds to Pain
- The person makes a response on any of the components when pain is used on them;
• Apply incremental pressure to the side of the patient’s little finger by pressing their finger between your own finger and a pen;
• Using your own straight fingers, vigorously tap the patient’s Collar bone (Clavicle), focusing on one area.
• Do not press the nail bed as this can cause bruising.

**U = completely Unresponsive**

• This is recorded when the person does not give any Eye, Voice or Motor response to voice or pain.

**Remember that the airway is at risk in people with a low conscious level.**

There may be time when the patient has physically deteriorated and not known to have a head injury (Flowchart 8)

2. What are NEWS 2, PEWS and Pregnancy EWS?

The National Early Warning Score 2 (NEWS 2), Paediatric Early Warning Score (PEWS) and Pregnancy Early Warning Score (Pregnancy EWS) are standardised trigger scoring systems. The triggers are based on routine physical observations, Alert, Confusion, Voice, Pain, Unresponsive (ACVPU) and subsequently Glasgow Coma Scale (GCS), are sensitive enough to detect changes in a patient’s physiology, which will be reflected in a change of score should the patient’s physical health be improving or deteriorating.

All patients must have their physical observations and AVPU measured and these are converted into a score. The higher the score the more abnormal the physical observations and ACVPU signs are. If the scores reach a certain threshold for example:

- **NEWS 2 score** of 2 or more the senior nurse must be informed and clinical decision making should be utilised; if NEWS 2 score of 5 or more the senior nurse must be informed and a doctor must be contacted to further assess the patient and clinical decision making utilised (see section 2.1.1).

- **PEWS Score** of 1 – 2 or more the senior nurse must be informed and clinical decision making should be utilised; if PEWS scores 5 and above the senior nurse must be informed and a doctor must be contacted to further assess the patient and clinical decision making utilised (see section 2.1.2).

- **Pregnancy EWS** score of 0 – 2, Routine monitoring and scoring, Unless patient’s physical condition indicates change – then care plan required, Score of 3 – 8, registered nurse to urgently inform the medical team / Consultant, caring for the patient or an available medic for urgent assessment within 30mins and a score of 9 and above, registered nurse to immediately inform medical team for emergency assessment, or contact crash team (2222) or Emergency Services (999) (see section 2.1.3).

Early warning scoring systems were originally developed with two specific aims: to facilitate timely recognition of the patients with established or impending critical illness: and to empower nurses and medical staff to secure experienced help through the operation of a trigger threshold which, if reached, required mandatory attendance by a more senior member of staff within a set period of time.

**Use of NEWS 2 / PEWS AND Pregnancy EWS can also:**

- Improve the quality of patient’s observation and monitoring;
- Improve communication within the multidisciplinary team;
- Allow for timely transfer to acute assessment units;
- Support good medical judgement;
- Aid in securing appropriate assistance for the clinically deteriorating patient;
- Give a good indication of physiological trends;
- Be a sensitive indicator of abnormal physiology.
NEWS 2 / PEWS / Pregnancy EWS are not:

- A predictor of outcome;
- A comprehensive clinical assessment tool;
- A replacement for clinical judgement.

NEWS 2 Cannot:

- Be used on patients under 16 (PEWS) must be used on patients aged 13 – 18;
- Be used on any patient who is pregnant Pregnancy Early Warning Score must be used.

2.1 When to use NEWS 2 / PEWS / Pregnancy EWS

NEWS 2 / PEWS rely on the routine assessment and charting of the physical observations and ACVPU status of the patient. These are simple observations that can be performed by a nurse, doctor or other trained staff familiar with the process.

All patients must have a physical assessment and ACVPU within 6 hours of admission and a NEWS 2 / PEWS score must be calculated and recorded as a benchmark. If completion of assessment has not taken place within 6 hours you must document and date each attempt, and reasons why the assessment was not completed within the time period.

These physical observations and ACVPU observations are:

- Doctor / Nurse / Family concerns (PEWS);
- Respiratory rate;
- Respiratory Distress (PEWS);
- Oxygen saturation;
- Oxygen saturation scale 2 – Only to be used under the direction of a clinician.
- Blood pressure (Recorded, but not scored in (PEWS);
- Pulse / heart rate;
- Temperature;
- ACVPU;
- GCS;
- Blood Glucose.

The outcome for each observation is combined to provide a NEWS 2 / PEWS / Pregnancy EWS score

All sections of the Physical observations recording chart with National Early Warning Score 2 (NEWS 2), Paediatric Early Warning Score (PEWS) and Glasgow Coma Score (GCS) chart must be completed and scored, and actions taken as described on the reverse of the chart. The frequency and specifications of all observations must be prescribed in the nursing care plan; and must be a minimum of weekly for all patients following admission.

NEWS 2 / PEWS assessment must be recommenced immediately in the following situations:

- The patient appears to be physically unwell;
- The patient has fallen;
- The patient has altered level of consciousness e.g. head injury;
- The patient is intoxicated with alcohol or drugs;
- The patient not responding to requests as expected;
- The patient is commencing new medication that may affect physical health;
- A report from patient or witness regarding any of the above.

NEWS 2 / PEWS score must be updated and scored prior to any transfer / discharge to other Services or external healthcare provision.

Where the patient’s multidisciplinary team decide that a full physical NEWS 2 / PEWS assessment and scoring is not appropriate then this should be clearly documented both on the patient’s physical
observation chart, with an annotation in the patients’ care notes, recording why the decision was made not to use NEWS 2 / PEWS. This may include the following patient’s:

- The patient on palliative care pathways;
- The patient for whom escalation of care is inappropriate.

### 2.1.1 How to Calculate, Score and Action NEWS 2

*Please note: ≥ is greater than; ≤ is less than.*

Taking into account the results of the physical and AVPU observations:

- Total the NEWS 2 score using 0-3 guide on chart.
- Observation recorded in White sections score = 0
- Observation recorded in Yellow sections score = 1
- Observation recorded in Orange sections score = 2
- Observation recorded in Red sections score = 3
- Add the total observation scores and record total NEWS 2 score in the box for calculate NEWS 2 score.

NEWS / 2 observations should then be continued at the frequency identified on physical observation chart with NEWS 2 pathway and must reflect the needs of the patient.

- A NEWS 2 of 0 - Minimum of weekly NEWS 2, routine monitoring and scoring, unless alternative observations are agreed as part of a care plan and if a patient’s physical condition indicates change – then a care plan is required, the care plan should be discussed with and agreed by the patient’s medical team.

- A NEWS 2 of 1 – 4 - Maximum - 2 hourly, Minimum - 4 hourly, a registered nurse **must** be informed and the patient **must** be assessed, the registered nurse will then decide whether to increase the frequency of monitoring and if an escalation of clinical care is required, such as medical escalation.

- A NEWS 2 of 5 – 6 or a score of 3 in any one parameter – increased frequency to a minimum of 1 hourly, Registered nurse **must** urgently inform the available medical team for assessment within 30 minutes or contact emergency services (9)999 or the crash team (2222 via the locality switch board).

- **CVPU scores 3 in one parameter** – continue with GCS and NEWS 2 scoring, at a minimum 30 minutes for 2 hours if GCS is 15 with a head injury or suspected head injury, IF GCS ≤ 14 increase to 15 minutes observations and mews scoring and follow the actions for GCS in **Flowchart 9**.

- A NEWS 2 of 7 or more - increase frequency to 5 minutes and therapeutic observations to level 3-4. Registered nurse **must** immediately inform medical team for emergency assessment or contact emergency services (9)999 or 2222 for the crash team. Failure of medical review or 999 to attend to a NEWS 2 call within the acceptable timescale (i.e. within 30 minutes) the nurse in charge must complete a Datix form and inform immediate manager.

- If a patient is scoring high and a reason for this is known / suspected, this may not be deterioration, a high score may be due to patient Anxieties, pre-existing health issues, equipment etc. Clinical judgement / decision making should be utilised, this decision **must** be documented and discussed with the medical staff.

- If a patient is scoring high and deterioration is suspected then the actions for that score **must** be followed as below.
• If patient has a head injury, altered level of consciousness, including possible consumption of alcohol and / or illicit drugs, or has an ACVPU score of 3 or more, commence Glasgow Coma score (GCS) assessment, and follow the actions outlined in Flowchart 9.

• If a patient’s systolic blood pressure is recorded within the grey shaded area the nurse in charge must be informed and then discussed with the patient’s medical team, this may then require regular observations and intervention.
# National Early Warning Score 2 (NEWS 2)

<table>
<thead>
<tr>
<th>Ward:</th>
<th>NHS Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>DOB:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Respiration Rate</th>
<th>Oxygen Saturation</th>
<th>SpO2 Scale 2</th>
<th>Oxygen Saturation (%)</th>
<th>Use Scale 2 if target range is 88 – 92%, e.g. hypercapnic</th>
<th>Respiratory failure</th>
<th>Only use scale 2 under the direction of a clinician</th>
<th>Air or Oxygen (O2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>≤25</td>
<td>≥96</td>
<td>≥97 on O2</td>
<td>95-96 on O2</td>
<td>≥93 on air</td>
<td>88-92</td>
<td>≥83%</td>
<td>A=Air</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21-24</td>
<td>94-95</td>
<td>93-94 on O2</td>
<td>92-96 on O2</td>
<td>86-87</td>
<td>84-85</td>
<td>84-85</td>
<td>O2 L/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-20</td>
<td>92-93</td>
<td>92-93 on O2</td>
<td>91-94 on O2</td>
<td>84-84</td>
<td>≤84</td>
<td>≤84%</td>
<td>Device</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9-11</td>
<td>≤91</td>
<td>≤91 on O2</td>
<td>≤91</td>
<td>≤91</td>
<td>≤91</td>
<td>≤91</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood Pressure</th>
<th>Pulse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic &amp; diastolic</td>
<td>Beats per Minute (BPM)</td>
</tr>
<tr>
<td>≥220</td>
<td>≥131</td>
</tr>
<tr>
<td>201-219</td>
<td>121-130</td>
</tr>
<tr>
<td>181-200</td>
<td>111-120</td>
</tr>
<tr>
<td>161-180</td>
<td>101-110</td>
</tr>
<tr>
<td>141-160</td>
<td>91-100</td>
</tr>
<tr>
<td>Inform nurse in charge if Systolic is above this line</td>
<td>Score systolic BP only for NEWS</td>
</tr>
<tr>
<td>121-140</td>
<td>81-90</td>
</tr>
<tr>
<td>111-120</td>
<td>71-80</td>
</tr>
<tr>
<td>101-110</td>
<td>61-70</td>
</tr>
<tr>
<td>91-100</td>
<td>51-60</td>
</tr>
<tr>
<td>81-90</td>
<td>≤50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Levels of Consciousness (AVPU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥36.1</td>
<td>Alert</td>
</tr>
<tr>
<td>35.1-36.1</td>
<td>Confusion</td>
</tr>
<tr>
<td>34.1-35.1</td>
<td>Score for NEWS onset of confusion (no score if chronic)</td>
</tr>
<tr>
<td>33.1-34.1</td>
<td>Voice</td>
</tr>
<tr>
<td>32.1-33.1</td>
<td>Pain</td>
</tr>
<tr>
<td>≤32.1</td>
<td>Unresponsive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood Sugar *</th>
<th>Staff initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate NEWS 2 score using guide below*</td>
<td>See overleaf for actions and GCS</td>
</tr>
<tr>
<td>and see overleaf for actions</td>
<td></td>
</tr>
</tbody>
</table>

*Only record blood sugar if the patient deteriorates, or if VCPU scores 3 and GCS is activated.

* NEWS 2 key colour code for scoring 0 1 2 3 See overleaf for actions and GCS
How to calculate NEWS 2 Score

- Record all observations overleaf;
- Note whether observation falls in shaded ‘At Risk Zone’. Score as per NEWS 2 key;
- Add points scored and record total ‘NEWS 2 Score’ in bottom row of chart.

How to use the physical observation chart

<table>
<thead>
<tr>
<th>Start up</th>
<th>Observations</th>
<th>NEWS scores</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This chart does not override clinical judgement.</td>
<td>1. Total the NEWS 2 score including ACVPU using 0 – 3 key scoring guide on the chart.</td>
<td>NEWS Score</td>
<td>Frequency of monitoring</td>
</tr>
<tr>
<td>2. This chart cannot be used for patients under the age of 16.</td>
<td>2. Record the total NEWS 2 score in the box for NEWS 2.</td>
<td>Minimum of weekly NEWS 2 unless alternative observations are agreed as part of a care plan.</td>
<td>- Routine monitoring and scoring;</td>
</tr>
<tr>
<td>3. This chart cannot be used for patients who are pregnant.</td>
<td></td>
<td>Maximum - 2 Hourly Minimum - 4 hourly</td>
<td>- Registered nurse to decide if increased frequency of monitoring and/or escalation of clinical care required, i.e. medical review.</td>
</tr>
<tr>
<td>4. Take chart to patient.</td>
<td></td>
<td></td>
<td>- Registered nurse to urgently inform the medical team caring for the patient or an available medic for urgent assessment within 30mins, if the patients’ medical team is not available.</td>
</tr>
<tr>
<td>5. Record patient identification.</td>
<td></td>
<td></td>
<td>- Registered nurse to immediately inform medical team for emergency assessment;</td>
</tr>
</tbody>
</table>

How to calculate and action GCS 15 point score:
The GCS is a simple but effective way of assessing a patient’s neurological condition. It categorises the patient’s responses to certain stimuli and gives that response an overall score. It is divided into 3 main categories of response that are totalled to give an overall score.

- Score best motor, verbal and eye opening scores in the boxes provided following chart above;
- Add points score and record total ‘Overall GCS score’ in the box provided.

<table>
<thead>
<tr>
<th>Score and Motor Response</th>
<th>Score and Verbal Response</th>
<th>Score and Eye Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - Obey commands</td>
<td>5 - Oriented</td>
<td>4 - Spontaneous</td>
</tr>
<tr>
<td>5 - Localises pain</td>
<td>4 - Confused conversation</td>
<td>3 - Open to speech</td>
</tr>
<tr>
<td>4 - Withdrawal to pain</td>
<td>3 - Inappropriate words</td>
<td>2 - Open to pain</td>
</tr>
<tr>
<td>3 - Flexion</td>
<td>2 - Incomprehensible sounds</td>
<td>1 - No verbal response</td>
</tr>
<tr>
<td>2 - Extension</td>
<td>1 - No response to pain</td>
<td>1 - No eye opening</td>
</tr>
</tbody>
</table>

Date

Time

Motor Response Score
Verbal Response Score
Eye Opening Score
Overall GCS Score
Staffs Initials

Do not retain a paper version of this document, always view policy / guidance documents from the desktop icon on your computer.
2.1.2 How to Calculate, Score and Action PEWS

Please note: ≥ is greater than; ≤ is less than.

Taking into account the results of the physical and AVPU observations:

- Total the PEWS score using the guide on chart;
- Observation recorded in White sections score = 0;
- Observations in the shaded areas score 1 point each;
- Add the total observation scores and record total PEWS score in the box for Calculate PEWS score using guide and follow the scoring actions;
- Blood pressure is not scored as part of PEWS, but must be recorded.

PEWS observations should then be continued at the frequency identified on physical observation chart with PEWS pathway and must reflect the needs of the patient.

- A PEWS of 0 - Minimum of weekly PEWS, Routine monitoring and scoring, Unless alternative observations are agreed as part of a care plan and if a patient’s physical condition indicates change – then a care plan is required, the care plan should be discussed with and agreed by the patient’s medical team;

- A PEWS of 1 - 2 - Minimum - 2 hourly, Maximum - 4 hourly, a registered nurse must be informed and the patient must be assessed, the registered nurse will then decide whether to increase the frequency of monitoring and if an escalation of clinical care is required, such as medical escalation;

- A PEWS of 3 – 4 - increased frequency to a minimum of 1 hourly, Registered nurse must urgently inform the available medical team for assessment within 30 minutes or contact emergency services (9)999 or the crash team (2222 via the locality switch board);

- VPU scores 1 – continue with GCS and PEWS scoring, at a minimum 30 minutes for 2 hours if GCS is 15 with a head injury or suspected head injury, IF GCS < 14 increase to 15 minutes observations and mews scoring and follow the actions for GCS in Flowchart 9;

- A PEWS of 5 - 8 - increase frequency to 5 minutes and therapeutic observations to level 3 - 4. Registered nurse must immediately inform medical team for emergency assessment or contact emergency services (9)999 or 2222 for the crash team (only). Failure of medical review or 999 to attend to a PEWS call within the acceptable timescale (i.e. within 30 minutes) the nurse in charge must complete a Datix form and inform immediate manager;

- If a patient is scoring high and a reason for this is known / suspected, this may not be deterioration, a high score may be due to patient Anxieties, pre-existing health issues, equipment etc. Clinical judgement / decision making should be utilised, this decision must be documented and discussed with the medical staff;

- If a patient is scoring high and deterioration is suspected then the actions for that score must be followed as above;

- If patient has a head injury, altered level of consciousness, including possible consumption of alcohol and / or illicit drugs, or has an AVPU score of 3, commence Glasgow Coma score (GCS) assessment, and follow the actions outlined in this SOP Flowchart 9.
Paediatric Early Warning score (PEWS) for 13 – 18 Years

<table>
<thead>
<tr>
<th>Ward</th>
<th>NHS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>DOB</td>
</tr>
</tbody>
</table>

Doctor / Nurse / Family concern

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Respiratory rate (over 1 minute)</th>
<th>≥ 50</th>
<th>40 - 50</th>
<th>30 - 40</th>
<th>20 - 30</th>
<th>10 - 20</th>
<th>0 - 10</th>
</tr>
</thead>
</table>

Record respiration rate

<table>
<thead>
<tr>
<th>Respiratory Distress</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Oxygen Saturation</th>
<th>93</th>
<th>≤ 92</th>
</tr>
</thead>
</table>

Record oxygen saturation

<table>
<thead>
<tr>
<th>Heart Rate &amp; Blood Pressure</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>BP not used to calculate PEWS, but MUST be recorded.</th>
<th>Score pulse only.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Systolic BP ≥ 160 inform N.I.C.</th>
<th>≥181</th>
<th>171 - 180</th>
<th>161 - 170</th>
<th>151 - 160</th>
<th>141 - 150</th>
<th>131 - 140</th>
<th>121 - 130</th>
<th>111 - 120</th>
<th>101 - 110</th>
<th>91 - 100</th>
<th>81 - 90</th>
<th>71 - 80</th>
<th>61 - 70</th>
<th>51 - 60</th>
<th>41 - 50</th>
<th>36 - 40</th>
<th>≤ 35</th>
</tr>
</thead>
</table>

|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----|----|------|-----|-----|------|-----|

Record pulse / heart rate

<table>
<thead>
<tr>
<th>Record blood pressure</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Temperature °c</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>≥ 39.1°C</th>
<th>38.1 - 39°C</th>
<th>37.1 - 38°C</th>
<th>36.1 - 37°C</th>
<th>35.1 - 36°C</th>
<th>≤35.9°C</th>
</tr>
</thead>
</table>

Record temperature

<table>
<thead>
<tr>
<th>Neuro Response (AVPU)</th>
<th>Alert</th>
<th>Verbal</th>
<th>Pain</th>
<th>Unresponsive</th>
</tr>
</thead>
</table>

Calculate PEWS score using guide below* and see overleaf for actions

Staff Initials

<table>
<thead>
<tr>
<th>Total PEWS</th>
<th>0</th>
<th>1 - 2</th>
<th>3 - 4</th>
<th>5 - 8</th>
</tr>
</thead>
</table>

PTO for Action: Total PEWS = Number of Entries in Shaded Boxes

How to calculate PEWS Score

- Record all observations above with a firm black ● in black ink
- Note whether observation falls in shaded ‘At Risk Zone as one point’. Score as per PEWS key;
- Add points scored and record total ‘PEWS Score’ in bottom row of chart
How to use the physical observation chart

<table>
<thead>
<tr>
<th>Start up</th>
<th>Observations</th>
<th>PEWS scores</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This chart does not override clinical judgement. If the patient scores 3 and above and a reason for this is known this reason must be documented / careplanned and medical advice sought.</td>
<td>1. Record ALL observations with a ‘firm’ dot ● in black ink. 2. Write exact values of observations in boxes provided. 3. Join consecutive observations with a straight line over time.</td>
<td>1. Total the PEWS score including AVPU using 0 – 3 key scoring guide on the chart. 2. Record the total PEWS score in the box for PEWS.</td>
<td>PEWS Score Frequency of monitoring Clinical response</td>
</tr>
<tr>
<td>2. Take chart to patient.</td>
<td></td>
<td></td>
<td>0 Minimum of weekly PEWS unless alternative observations are agreed as part of a care plan.</td>
</tr>
<tr>
<td>4. If systolic and diastolic blood pressure are above 140 or below 100 (the two black lines) – inform the Nurse in charge.</td>
<td>Total: 3 - 4 Increased frequency to a minimum of 1 hourly. If VPU scores in the shaded area continue with GCS and PEWS scoring - Minimum of every 30mins for 2hours if GCS 15. - 15 minute PEWS and GCS if GCS ≤ 14. Follow actions as directed in SOP3.</td>
<td></td>
<td>- Registered nurse to urgently inform the medical team / Consultant, caring for the patient or an available medic for urgent assessment within 30mins, if the patients’ medical team is not available, call Emergency Services (999) or ring (2222)</td>
</tr>
<tr>
<td></td>
<td>Total: 5 - 8 Increased frequency to 5 minutes and Therapeutic Observations (level 3/4)</td>
<td></td>
<td>- Registered nurse to immediately inform medical team / Consultant for emergency assessment, or - Contact Emergency Services (999) or (2222)</td>
</tr>
</tbody>
</table>

How to calculate and action GCS 15 point score:
The Glasgow Coma Scale is a simple but effective way of assessing a patient’s neurological condition. It categorises the patient’s responses to certain stimuli and gives that response an overall score. It is divided into 3 main categories of response that are totalled to give an overall score.

- Score best motor, verbal and eye opening scores in the boxes provided following chart above;
- Add points score and record total ‘Overall GCS score’ in the box provided.

<table>
<thead>
<tr>
<th>Score and Motor Response</th>
<th>Score and Verbal Response</th>
<th>Score and Eye Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - Obeys commands</td>
<td>5 - Oriented</td>
<td>4 - Spontaneous</td>
</tr>
<tr>
<td>5 - Localises pain</td>
<td>4 - Confused conversation</td>
<td>3 - Open to speech</td>
</tr>
<tr>
<td>4 - Withdrawal to pain</td>
<td>3 - Inappropriate words</td>
<td>2 - Open to pain</td>
</tr>
<tr>
<td>3 - Flexion</td>
<td>2 - Incomprehensible sounds</td>
<td>1 - No eye opening</td>
</tr>
<tr>
<td>2 - Extension</td>
<td>1 - No verbal response</td>
<td></td>
</tr>
<tr>
<td>1 - No response to pain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date
Time
Motor Response Score
Verbal Response Score
Eye Opening Score
Overall GCS Score
Staffs Initials
2.1.3 How to Calculate, Score and Action Pregnancy EWS

*Please note:* ≥ is greater than; ≤ is less than.

Taking into account the results of the physical and AVPU observations:

- Total the Pregnancy EWS score using the guide on chart;
- Observation recorded in White sections score = 0;
- Observations in the Red or Yellow shaded areas score 1 point each;
- If the patient scores 1 or more point in the red or 2 or more in the yellow the medics should be contacted for early intervention – unless otherwise documented;
- Add the total observation scores and record total Pregnancy EWS score in the box for total score using guide and follow the scoring actions.

Pregnancy EWS observations should then be continued at the frequency identified on physical observation chart with Pregnancy EWS pathway and must reflect the needs of the patient.

- A Pregnancy EWS of 0 - 2 = Minimum of 12 hourly, Routine monitoring and scoring, unless the patients physical condition indicates change – then a care plan is required, that should include maternity services input, the care plan should be discussed with and agreed by the patient’s medical team;

- A Pregnancy EWS of 3 - 5 = 1 - 4 hourly, a registered nurse must be informed and the patient must be assessed, the registered nurse will then urgently inform the patient's medical team or an available medic for urgent assessment within 30 minutes, or contact the crash team (2222) or (9)999, unless a plan of care has been formulated and agreed by the patients care team;

- A Pregnancy EWS of 6 – 8, a registered nurse must be informed and the patient must be assessed, the registered nurse will then urgently inform the patient’s medical team or an available medic for urgent assessment within 30 minutes, or contact the crash team or (9)999, unless a plan of care has been formulated and agreed by the patients care team;

- A Pregnancy EWS score of 9 and above, Registered nurse to immediately inform the medical team for emergency assessment OR contact the crash team (2222) or Emergency services (9)999;

- AVPU scores in red or yellow – continue with GCS and Pregnancy EWS scoring, at a minimum 30 minutes for 2 hours if GCS is 15 with a head injury or suspected head injury, IF GCS < 14 increase to 15 minutes observations and mews scoring and follow the actions for GCS in Flowchart 9;

- If a patient is scoring high and a reason for this is known / suspected, this may not be deterioration, a high score may be due to patient Anxieties, pre-existing health issues, equipment etc. Clinical judgement / decision making should be utilised, this decision **Must** be documented and discussed with the medical staff;

- If a patient is scoring high and deterioration is suspected then the actions for that score **Must** be followed as above;

- If patient has a head injury, altered level of consciousness, including possible consumption of alcohol and / or illicit drugs, or has an AVPU score of 3, commence Glasgow Coma score (GCS) assessment, and follow the actions outlined in **Flowchart 9**.
# Pregnancy Early Warning Score Chart

<table>
<thead>
<tr>
<th>Ward</th>
<th>NHS Number</th>
<th>Name</th>
<th>DOB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Respirations (over 1 minute)</th>
<th>Record respiration rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>≥30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21 - 30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 - 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 - 10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxygen administered L/min</th>
<th>≥95%</th>
<th>≤95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record oxygen saturation %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood Pressure</th>
<th>Record systolic &amp; diastolic</th>
<th>Score systolic BP only for Pregnancy EWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥191</td>
<td>181-190</td>
<td>≥191</td>
</tr>
<tr>
<td>171-180</td>
<td>171-180</td>
<td>181-190</td>
</tr>
<tr>
<td>161-170</td>
<td>161-170</td>
<td>171-180</td>
</tr>
<tr>
<td>151-160</td>
<td>151-160</td>
<td>161-170</td>
</tr>
<tr>
<td>141-150</td>
<td>141-150</td>
<td>151-160</td>
</tr>
<tr>
<td>131-140</td>
<td>131-140</td>
<td>141-150</td>
</tr>
<tr>
<td>121-130</td>
<td>121-130</td>
<td>151-160</td>
</tr>
<tr>
<td>111-120</td>
<td>111-120</td>
<td>161-170</td>
</tr>
<tr>
<td>101-110</td>
<td>101-110</td>
<td>171-180</td>
</tr>
<tr>
<td>91-100</td>
<td>91-100</td>
<td>181-190</td>
</tr>
<tr>
<td>81-90</td>
<td>81-90</td>
<td>191</td>
</tr>
<tr>
<td>71-80</td>
<td>71-80</td>
<td>≥191</td>
</tr>
<tr>
<td>61-70</td>
<td>61-70</td>
<td>181-190</td>
</tr>
<tr>
<td>≥60</td>
<td>≥60</td>
<td>≥191</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pulse / Heart Rate</th>
<th>Record blood pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥141</td>
<td>≥141</td>
</tr>
<tr>
<td>131-140</td>
<td>131-140</td>
</tr>
<tr>
<td>121-130</td>
<td>121-130</td>
</tr>
<tr>
<td>111-120</td>
<td>111-120</td>
</tr>
<tr>
<td>101-110</td>
<td>101-110</td>
</tr>
<tr>
<td>91-100</td>
<td>91-100</td>
</tr>
<tr>
<td>81-90</td>
<td>81-90</td>
</tr>
<tr>
<td>71-80</td>
<td>71-80</td>
</tr>
<tr>
<td>61-70</td>
<td>61-70</td>
</tr>
<tr>
<td>51-60</td>
<td>51-60</td>
</tr>
<tr>
<td>41-50</td>
<td>41-50</td>
</tr>
<tr>
<td>31-40</td>
<td>31-40</td>
</tr>
<tr>
<td>≤30</td>
<td>≤30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Record pulse / heart rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥39.1°</td>
<td>≥39.1°</td>
</tr>
<tr>
<td>38.6 - 39°</td>
<td>38.6 - 39°</td>
</tr>
<tr>
<td>38.1 - 38.5°</td>
<td>38.1 - 38.5°</td>
</tr>
<tr>
<td>37.6 - 38°</td>
<td>37.6 - 38°</td>
</tr>
<tr>
<td>37.1 - 37.5°</td>
<td>37.1 - 37.5°</td>
</tr>
<tr>
<td>36.6 - 37°</td>
<td>36.6 - 37°</td>
</tr>
<tr>
<td>36.1 - 36.5°</td>
<td>36.1 - 36.5°</td>
</tr>
<tr>
<td>35.6 - 36°</td>
<td>35.6 - 36°</td>
</tr>
<tr>
<td>35.1 - 35.5°</td>
<td>35.1 - 35.5°</td>
</tr>
<tr>
<td>34.6 - 35°</td>
<td>34.6 - 35°</td>
</tr>
<tr>
<td>34.1 - 34.5°</td>
<td>34.1 - 34.5°</td>
</tr>
<tr>
<td>≤34°</td>
<td>≤34°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neuro Response (AVPU)</th>
<th>Alert</th>
<th>Verbal</th>
<th>Pain</th>
<th>Unresponsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Yellow Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Red Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total score – see actions overleaf

Staff Signature

Contact medics for early intervention if patient scores One or more in Red or Two or more Yellow at any one time - unless otherwise documented.
How to calculate Pregnancy EWS Score

- Record all observations overleaf;
- Note whether observation falls in the Red or yellow boxes, Score one point per box.
- Add points scored – in red and yellow boxes and record total if patient scores one point in red or two points in yellow contact the medical team unless this has already been discussed and care planned.
- AVPU - If a point is scored in red or yellow – commence GCS.

How to use the physical observation chart

<table>
<thead>
<tr>
<th>Start up</th>
<th>Observations</th>
<th>P - EWS scores</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This chart does not override clinical judgement.</td>
<td>1. Record ALL observations with a ‘firm’ dot in black ink. 2. Write exact values of observations in boxes provided. 3. Join consecutive observations with a straight line over time.</td>
<td>1. Total the P - EWS score including AVPU using 2. Record the total P- EWS score in the box for total score.</td>
<td>P -EWS Score 0 - 2 Frequency of monitoring 12 Hourly - unless alternative observations are agreed as part of a care plan. Total: 3 - 5 1 – 4 Hourly Total: 6 - 8 Increased frequency to a minimum of 1 – 2 hourly. If VPU scores continue, Minimum of every 30mins for 2hours if GCS 15. 15 minute P - EWS and GCS if GCS ≤ 14. Follow actions as directed in SOP3. Total: &gt;9 Increased frequency to 30 minutes and Therapeutic Observations (level 3/4)</td>
</tr>
</tbody>
</table>

How to calculate and action GCS 15 point score:
The Glasgow Coma Scale is a simple but effective way of assessing a patient’s neurological condition. It categorises the patient’s responses to certain stimuli and gives that response an overall score. It is divided into 3 main categories of response that are totalled to give an overall score.
- Score best motor, verbal and eye opening scores in the boxes provided following chart above;
- Add points score and record total ‘Overall GCS score’ in the box provided.

<table>
<thead>
<tr>
<th>Score and Motor Response</th>
<th>Score and Verbal Response</th>
<th>Score and Eye Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - Obey commands</td>
<td>5 - Oriented</td>
<td>4 - Spontaneous</td>
</tr>
<tr>
<td>5 - Localises pain</td>
<td>4 - Confused conversation</td>
<td>3 - Open to speech</td>
</tr>
<tr>
<td>4 - Withdrawal to pain</td>
<td>3 - Inappropriate words</td>
<td>2 - Open to pain</td>
</tr>
<tr>
<td>3 - Flexion</td>
<td>2 - Incomprehensible sounds</td>
<td>1 - No eye opening</td>
</tr>
<tr>
<td>2 - Extension</td>
<td>1 - No verbal response</td>
<td></td>
</tr>
<tr>
<td>1 - No response to pain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date
Time
Motor Response Score
Verbal Response Score
Eye Opening Score
Overall GCS Score
Staffs Initials

Action: For actions refer to Clinical Practice policy CP35 / SOP3 which incorporates the ‘Procedure to be followed in the event of altered level of consciousnesses’
3. Glasgow Coma Scale

The Glasgow Coma Scale (GCS) is the most commonly used tool for evaluating conscious level. The GCS evaluates conscious level in three areas: motor response; verbal response and eye opening.

The GCS categorises the person’s responses to stimuli and gives the responses a score; these scores are then added up to give an overall score; the total sum gives a score out of 15.

A score of 15 indicates a fully alert and responsive person, whereas a score of 3 (the lowest possible score) indicates unconsciousness and critical state.

The GCS and NEWS 2 / PEWS and Pregnancy EWS observations procedure must be commenced immediately in the event of:

- The patient appears to be physically unwell;
- The patient has fallen;
- The patient has altered level of consciousness e.g. head injury;
- The patient is intoxicated with alcohol or drugs;
- The patient not responding to requests as expected;
- The patient is commencing new medication that may affect physical health;
- A report from patient or witness regarding any of the above.

In all cases of head injury or suspected head injury or altered level of consciousness NEWS 2 / PEWS and Pregnancy EWS and GCS observations must be assessed, recorded and actioned at the frequency identified on NEWS 2 / PEWS and Pregnancy EWS pathway for a minimum of 4 hours.

A GCS of 8 or less indicates severe head injury, a GCS of 9-12 moderate head injury, and a GCS score of 13-15 is obtained when the head injury is minor.

How to Calculate and Score the Glasgow Coma Scale:

- Explain the procedure to the patient, whether conscious or not, answer any questions and gain their consent;
- Talk to the patient. Note whether they are alert and giving full attention or restless, lethargic and drowsy;
- Ask the patient to perform a simple tasks e.g. raise your arm (include both sides of the body), stick out your tongue;
- If the patient does not respond apply painful stimuli (i.e. Apply incremental pressure to the side of the patient’s little finger by pressing their finger between your own finger and a pen);
- Score each category as per chart below;
- Add up category scores to give a total score out of 15;
- Record total GCS score on the GCS chart i.e.15/15.

Assessment of score motor response

<table>
<thead>
<tr>
<th>Score and motor response</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td><strong>Response</strong></td>
</tr>
<tr>
<td>6</td>
<td>Obeys commands</td>
</tr>
<tr>
<td>5</td>
<td>Localises pain</td>
</tr>
<tr>
<td>4</td>
<td>Withdrawal to pain</td>
</tr>
<tr>
<td>3</td>
<td>Flexion</td>
</tr>
<tr>
<td>2</td>
<td>Extension</td>
</tr>
<tr>
<td>1</td>
<td>No response to pain</td>
</tr>
</tbody>
</table>

Assessment of score motor response

<table>
<thead>
<tr>
<th>Score and motor response</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td><strong>Response</strong></td>
</tr>
<tr>
<td>6</td>
<td>Obeys commands</td>
</tr>
<tr>
<td>5</td>
<td>Localises pain</td>
</tr>
<tr>
<td>4</td>
<td>Withdrawal to pain</td>
</tr>
<tr>
<td>3</td>
<td>Flexion</td>
</tr>
<tr>
<td>2</td>
<td>Extension</td>
</tr>
<tr>
<td>1</td>
<td>No response to pain</td>
</tr>
</tbody>
</table>
Assessment of score and verbal response

<table>
<thead>
<tr>
<th>Score and verbal response</th>
<th>Number</th>
<th>Response</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>Orientated</td>
<td>Patient ‘knows who he is, where he is and why, the year, season, and month.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Confused conversation</td>
<td>Patient responds to questions in a conversational manner but some disorientation and confusion.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Inappropriate words</td>
<td>Random or exclamatory articulated speech, but no conversational exchange.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Incomprehensible sounds</td>
<td>Moaning but no words.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>No verbal response</td>
<td>No verbal response despite verbal or other stimuli</td>
</tr>
</tbody>
</table>

Assessment of score and eye opening

<table>
<thead>
<tr>
<th>Score and eye opening</th>
<th>Number</th>
<th>Response</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>Spontaneous</td>
<td>Eyes open spontaneously without stimulation</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Open to speech</td>
<td>Eye opening in response any speech (or shout, not necessarily request to open eyes);</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Open to Pain</td>
<td>Eyes open with painful stimulus.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>No eye opening</td>
<td>No eye opening regardless of stimulation</td>
</tr>
</tbody>
</table>

Procedures to be followed in the event of a head injury or altered level of consciousness see
- Flowchart 9
- www.glasgowcomascale.org/recording-gcs/

Patients who have sustained a head injury must be referred to a hospital Accident and Emergency department if any of the Risk factors listed below are present:

Risk factors:
- GCS less than 15 on initial assessment;
- Any loss of consciousness as a result of the injury;
- Any focal neurological deficit since the injury (examples include problems understanding, speaking, reading or writing; decreased sensation; loss of balance; general weakness; visual changes; abnormal reflexes; and problems walking);
- Any suspicion of a skull fracture or penetrating head injury since the injury (for example, clear fluid running from the ears or nose, black eye with no associated damage around the eyes, bleeding from one or both ears, new deafness in one or both ears, bruising behind one or both ears, penetrating injury signs, visible trauma to the scalp or skull of concern to the professional);
- Amnesia for events before or after the injury. The assessment of amnesia will not be possible in pre-verbal children and is unlikely to be possible in any child aged under 5 years;
- Persistent headache since the injury;
- Any vomiting episodes since the injury;
- Any seizure since the injury;
- Any previous cranial neurosurgical interventions;
- A high-energy head injury (for example, pedestrian struck by motor vehicle, occupant ejected from motor vehicle, fall from a height of greater than 1 m or more than five stairs, diving accident, high-speed motor vehicle collision, rollover motor accident, accident involving motorized recreational vehicles, bicycle collision, or any other potentially high-energy mechanism);
- History of bleeding or clotting disorder;
• Current anticoagulant therapy such as warfarin;
• Current drug or alcohol intoxication;
• Age 65 years or older.

(NICE guidelines CG176; https://www.nice.org.uk/guidance/cg176)

4. Blood glucose

Normal blood glucose levels – In a healthy individual, the body regulates the blood glucose to be maintained between 4 and 7 mmols (Nice 2008). Blood glucose levels outside of the normal range may cause altered levels of consciousness; for this reason if a patient falls into one of the following categories a peripheral blood glucose sample must be obtained and using a BM machine, obtain a blood glucose level, and recorded:

• The patient appears to be physically unwell;
• The patient has altered level of consciousness e.g. head injury;
• The patient is intoxicated with alcohol or drugs;
• The patient not responding to requests as expected;
• AVPU score 3;
• A report from patient or witness regarding any of the above.

Blood Glucose Monitoring

• Explain the procedure to the patient and gain verbal consent;
• Encourage patient, assisting where necessary, to wash their hands with soap and water drying them thoroughly afterwards if skin is contaminated;
• Ensure patient is sitting/lying down and is comfortable;
• Decontaminate hands as per the CWP hand decontamination policy and procedure and don disposable plastic apron and non-sterile gloves;
• Select site of piercing**. Ensure the site used is rotated to reduce the risk of infection from multiple stabbing;
• Using a disposable lancet pierce the skin at the side of the finger;
• Encourage bleeding by use of gravity or by ‘milking’ to form a droplet of blood;
• Dispose of lancet immediately after use in sharps disposal box;
• Apply blood to test strip ensuring required coverage of pad;
• Proceed as per device instructions;
• Apply gauze if necessary to punctured area to stop bleeding;
• Obtain result and record immediately;
• Correctly dispose of waste as per the CWP waste management policy;
• Remove and dispose of gloves and apron as per the CWP waste management policy.
• Decontaminate hands as per the CWP hand decontamination policy and procedure;
• Assess patient for any adverse reactions or bleeding;
• Report any abnormal results immediately to the nurse in charge and/or duty doctor;
• Document results in the patient’s notes;
• The skin at the sample site should be clean and dry, otherwise results can be affected. Avoid use of alcohol wipes / rub as they can affect the result, however if used, allow skin to dry before proceeding.

(The Royal Marsden 2015)

5. Actions required when an in-patient is suspected of being intoxicated with drugs and or Alcohol

The priorities for patient care are:

• Airway management;
• Physical and neurological assessments and;
• Protection from cold.
If it is suspected that a patient might be intoxicated, the actions below must be followed and recorded in the patient’s health records.

<table>
<thead>
<tr>
<th>No</th>
<th>Action required</th>
<th>Rationale</th>
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</table>
| 1  | Conduct assessment of patients' physical and neurological observations using the Physical observation recording chart with National Early Warning Score 2 (NEWS 2), Paediatric Early Warning Score (PEWS), Pregnancy EWS, AVPU and Glasgow Coma Score (GCS) for ALL patients. | Pulse  
May be full and bounding, but become weak and rapid.  

**Respirations**  
May have deep, noisy respirations which become less frequent and shallow  

**Temperature**  
It is likely that body temperature falls in response to alcohol intoxication. The skin appears cold and clammy.  

A head injury can be missed if a patient appears intoxicated with alcohol. |
| 2  | Establish what substance the patient has consumed, in what amounts and over what span of time | To ensure appropriate monitoring and treatment is implemented.  

The larger the amount of alcohol consumed and the shorter span of time might indicate that the patient’s condition could deteriorate rapidly as blood alcohol levels increase. |
| 3  | A qualified nurse (where possible, who knows the patient) will be responsible for assessment and monitoring of the patients physical condition | To ensure that any changes in the patients physical condition are monitored and acted upon in a timely manner.  

Do not use an Alco meter to assess levels of intoxication  

They are only recommended to show that alcohol has been consumed and not the level of intoxication. |
| 4  | Increase level of observation to a minimum of level 2 15 minute intermittent | To ensure patient is observed so that any deterioration in health can be acted upon immediately.  

Where it is necessary to put a patient to bed level 3 observations must be conducted and the patient must be nursed in the recovery position  

To ensure that the risk of vomiting and/or inhalation of gastric content or obstructed airway are rapidly recognised and medical staff alerted if required. |
| 5  | If there are any changes to patients physical observations, ACVPU or GCS the duty doctor must be contacted to conduct a physical assessment | To ensure a full physical examination is conducted and to assess level of intoxication and if any intervention in an acute trust is required. |
| 6  | Note - Snoring should be regarded as a warning sign of possible respiratory difficulty (Stridor)  
If snoring is heard the nurse in charge should be informed immediately. They will assess the need for further actions that could include different levels of observations, nursing the patient in the recovery position and requesting a medical assessment | Snoring is an indication of restricted respiration and needs immediate assessment and (possible) medical intervention |
| 7  | If patient is conscious and swallowing normally encourage extra fluids (preferably water)  
Note - Lack of vomiting is not an indication that the | To prevent the patient from becoming dehydrated. |
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Do not increase fluids if patient’s level of consciousness is impaired according</td>
<td>To reduce the chance of patient vomiting or inhaling gastric contents</td>
</tr>
<tr>
<td></td>
<td>GCS score consulting medical staff</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Do not administer any medication without consulting medical staff</td>
<td>To prevent overdose or interaction with alcohol</td>
</tr>
<tr>
<td>10</td>
<td>Observe for signs of hypoglycaemia</td>
<td>This can be a result of alcohol intoxication and can cause coma</td>
</tr>
<tr>
<td>11</td>
<td>If the patient requires transfer to acute trust they must be accompanied by a</td>
<td>To ensure the acute trust can assess level of intoxication with additional information provided</td>
</tr>
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<td></td>
<td>member of ward staff and would need to be transported by ambulance</td>
<td>by ward staff.</td>
</tr>
</tbody>
</table>

Physical and neurological assessment and scores is essential for responding appropriately to their deteriorating physical and / or neurological health.

All escalation of NEWS 2, PEWS and Pregnancy EWS action must be communicated to Senior Clinicians / GP using the SBAR communication / handover tool in the admission, discharge and transfer policy:

- Situation;
- Background;
- Assessment;
- Recommendation.

This can be recorded using the SBAR documentation – this can be accessed via the trusts admission, discharge and transfer policy or Via CAREnotes under assessments.

CWP recognises that the effective recognition and appropriate early management of the deteriorating patient is a key objective for the safety and wellbeing of patients and will take all reasonable steps to achieve this:

- Training in the use of NEWS 2 / PEWS / Pregnancy EWS for all nursing staff using the documentation;
- Establishing algorithms for each clinical area / virtual ward that recognise individual clinical circumstances encountered on these sites;
- The use of SBAR as a communication template in handover, and care escalation situations throughout CWP;
- The establishment of robust mechanisms for accessing emergency assistance either on site or externally;
- The development of transfer protocols agreed with the ambulance service and receiving hospital;
- The audit of all NEWS 2 / PEWS / Pregnancy EWS activations and emergency transfer against current clinical standards.